Barriers to Meditation

Thesis

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By

Samantha Bork

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Thesis Committee:

Dr. Keith Warren, Advisor

Abstract

The purpose of this study is to determine barriers that impede the practice of meditation. Extensive research shows that meditation has major health benefits for those formally and not formally in a clinical environment. However, studies often show high levels of engagement but retention rates of less than fifty percent of participants. Data collection comes from an electronic survey offered to Ohio State students. The questions in the survey include demographics, perceived barriers to meditation, and personality traits. Demographics and personality traits were entered as predictors of perceived barriers to meditation. 93 participants completed the survey. Among the Big Five Personality Traits, Extraversion was not statistically significant (B=0.089, SE=0.129, P=0.021), Agreeableness was not statistically significant (B=-0.290, SE=0.197, P=0.145). Conscientiousness was not statistically significant (B=0.054, SE=0.184, P=0.769). Neuroticism was statistically significant (B=0.388, SE=0.192, P=0.048). Openness was not statistically significant (B=-0.196, SE=0.160, P=0.225). Whether respondents practiced meditation was statistically significant (B=8.180, SE=1.992, P=0.000). Gender was statistically significant (B=6.389, SE=2.757, P=0.024). Average hours of work spent in school and extracurricular activities was statistically significant (B=2.465, SE=0.941, P=0.011). A physical, mental, or emotional condition lasting more than six months or more that contributed to difficulty doing activities such as learning, remembering, and concentrating was also statistically significant (B=-5.149, SE, 2.279, P=0.027).
The overall model was statistically significant.

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Curriculum Vitae

May 2013…… Mentor High School

May 2017…… B.S. Social Work, Honors with Research Distinction,

The Ohio State University

Field of Study

Major: Social Work

Minor: Health

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Chapter 1: Introduction

Meditation is an increasingly important practice. Meditation can be defined as bringing one's awareness to inner and outer environment in order to be more intentional in daily activities. This practice includes deep breathing and/or attempting to stay in the moment (Eisendrath, Chartier, & McLane 2010). This practice can used as an affect intervention for a variety of both psychological and physical conditions in clinical and nonclinical populations.

While meditation can be used as an effective intervention, literature shows that retention rates in meditative research studies remain low. Research suggests that personality may influence whether participants want to start and are able to complete a meditative intervention. However, there is little research done in this area, and the research that has been conducted is inconsistent. Further, there has been no study that has specifically focused on university students. This study provides insights into describing how personality may have a direct effect on meditation barriers and discusses implications that these findings have for the effectiveness of meditative interventions.

Chapter 2: Literature Review

Meditative Interventions

Acceptance and mindfulness are two closely related topics that associate with meditation. Mindfulness can be defined as paying attention in a particular way intentionally, in the moment, and non-judgmentally. The object of attention might include the breath, a word, or tasks such as washing dishes or exercising, which are part of one's daily life. Acceptance refers to being open to and staying with current experiences (Cavanagh, Strauss, Forder, & Jones F 2014, Klainin-Yobas, Vollestad, Nielsen, & Nielsen 2012, Cho & Creedy 2011). These definitions line up exactly with the purpose of meditation. Acceptance and mindfulness work hand in hand to assist participants to stop habitual thought patterns or reactions that drive negative psychological and physical conditions. When mindfulness and acceptance are used, one can accept what has happened, and can recognize that a wandering thought will pass instead of seeing the thought as truth. Mindfulness-based interventions (MIFs) include mindfulness-based stress reduction (MBSR), mindfulness-based cognitive therapy (MBCT), and acceptance and commitment therapy (ACT) (Cho & Creedy 2011). These are the most commonly used meditative psychotherapeutic interventions.

MBSR and MBCT has slightly different foci. In both, participants are encouraged to develop their skills through a wide range of formal and informal practices that include awareness of breath, body, sounds, and thoughts, body scanning, yoga, and walking meditation (Cavanagh, Strauss, Forder, Jones & 2014, Vollestad, Nielsen, & Nielsen 2012). The interventions typically last eight weeks, and participants are encouraged to

practice methods both inside and outside weekly classes. MBSR and MBCT have slightly different foci. MBCT is more specific to depression and negative thoughts, while MBSR focuses on stress generally (Cavanagh, Strauss, Forder, & Jones 2014). It is encouraged that participants not narrow the area of focus that they are working on.

ACT combines mindfulness and acceptance with treatment aspects from behavioral therapy and experiential psychotherapy (Cavanagh, Strauss, Forder, Jones & 2014, Vollestad, Nielsen, & Nielsen 2012). This model holds that psychotherapy addresses the relation of thoughts to truth as well as attempts to escape from or control unwanted experiences. It is assumed that emotional distress results from unhelpful verbal rules and thoughts that dominate the control of behavior at the cost of experiencing the present moment; the point of the dysfunctional rules and thoughts is actually to avoid the present moment. These maladaptive behaviors are meant to protect but are ineffective and result in further maladaptive behaviors that cause additional distress. Treatment focuses on psychological flexibility through teaching mindfulness, acceptance skills, and commitment to behavioral changes that are linked to the client. This treatment can include metaphors, experiential work, and traditional mindfulness practices to promote less judgment and more appropriate reaction, defined by the client, to experiences. It is the hope that this will undermine contexts of literality, expand psychological flexibility, and reduce experiential avoidance and maladaptive behaviors.

Meditation Benefits

Extensive research shows that meditation has health benefits, regardless of whether the client is in a formal or informal setting. Meditation is known to help reduce

depressive symptoms and relapse into depression (Eisendrath, Chartier, & McLane 2010, Peit & Hougaard 2011, Kenny & Williams 2005, Manicavasgar, Parker, & Perich 2010, Cavanagh, Strauss, Forder, & Jones 2014). Meditation is known to reduce stress and anxiety (Vollestad, Nielsen, & Nielsen 2011, Sharma & Rush 2014, Cavanagh, Strauss, Forder, & Jones 2014). There is evidence that meditation improves hypochondria, which involves both stress and anxiety regarding health (Suraway, McMannus, Muse, & Williams 2014). Meditation is shown to improve mental disorders including depression, generalized anxiety disorder, panic disorder, binge eating disorder, major depressive disorder, attention deficit disorder, recurrent depressive disorder, hyperactive disorder, mood disorder, bipolar disorder, suicidal idealization, social anxiety disorder, chronic major depressive disorder, childhood sexual abuse survivors, hypochondriacs, and severe health anxiety (Klainin-Yobas, Cho, & Creedy 2011, Chiesa & Serretti 2010). Meditation is also known to help insomnia (Winbush, Gross, & Kreitzer 2007). For the portion of the population that does not practice meditation inside of a formal setting, meditation is known to improve attention and memory (Sharma 2015).

Retention Rates

Retention rates are low in studies pertaining to meditation. Cavanagh, Strauss, Forder, and Jones (2014) found that only 48% of participants completed their meditative study. According to that same study, randomized participants completing post-treatment measures had a mean completion of 73% with a range of 48% and 98%. Another systematic review and meta-analysis found similar retention rates which can be as low as 50% (Vollestad, Nielsen, & Nielsen 2012). Overall, systematic reviews and meta-analysis

studies show high levels of engagement but low levels of retention. A better understanding of the barriers that people experience when practicing meditation might let us improve retention rates.

Chapter 3: Conceptual Framework

Theoretical Framework and Purpose of Study

As stated previously, there is little research that addresses the question of low retention rates for meditative interventions. In a related study, researchers compared self-reported barriers of meditation, gender and age. Personality being a confounding factor for preserved unclear barriers of meditation. This study addressed retention rates of the general population, stating that only 10% of United States adults practice meditation (Williams, Ness, Dixon, McCorkle 2012). The research did not show that gender and age was not a statistically significant impact on barriers to meditation. However, the research did show that extraversion, agreeableness, openness, consciousness, and neuroticism was statistically significant in determining barriers to meditation. This study showed that typical influencers, gender and age, did not have an impact on barriers to mediation, but personality type did have an effect.

The Theory of Planned Behavior (TPB) identifies personality as a determining factor for motivation and determination (Williams, Dixon, Van Ness, & McCorkle 2011). Though there is substantial evidence that meditation can be beneficial, research is not clear in addressing how motivation and determination affect meditation practices. Because personality is shown to influence motivation and determination, it is therefore relevant to study how barriers to meditation are affected by personality type. This study looks to clarify what personality types affect meditation practices in a sample of university students.

This study proposes that personality is a determining factor for barriers to meditation. Control variables include whether one practices meditation, gender, religion, education level, and time allotted to school work, extracurricular activities, and employment. These factors can affect motivation and determination. Since personality is a main influential factor for motivation and determination, this research will suggest that personality is the driving force for barriers to meditative practices.

Relevance and Contribution to Social Work

This study is especially relevant to social work. The five core values of social work as outlined by the National Association of Social Work are service, social justice, dignity, worth of the person, importance of human relationships, integrity, and competence (2017). This work directly addresses these values. Because this values overlap and affect each other, it is important to address each one of them individually and interwoven.

In terms of service, by addressing this topic medical providers and literature can be enhanced to ensure quality service on an individual and group level. This research can also bring to light how certain personality types may be overlooked by being given a routine treatment plan that may not suit them. This is related to the professional value of social justice. The goal and assumption of meditation is that anyone can live a more fulfilling life. Therefore, meditative interventions emphasis the dignity and worth of every person. Without an understanding and emphasis on the importance of personal relationships, service, social justice, and dignity, and worth of the person will also be overlooked. This research will add to the values of integrity and competency by

identifying areas of improvement in service capacities. As professionals, integrity and competency has to be addressed; without these values, consequently, all other values will fall short.

Social work also emphasizes the values of self-determination and a strengths-based approach to the client. These emphasized the ability of clients to have agency in their life. This research will add to the foundation of knowledge for both clinicians and clients to decide what interventions could be the most useful in helping empower lives.

Research Questions

The primary purpose of this study was to determine why retention rates for meditative interventions are low. More specifically, this study is meant to determine what personality types affect barriers to meditation. The goal of this project can be summarized in the following questions:

1. What personality types, if any, correlate with barriers to meditation?
2. How does different personalities, if any at all, influence barriers to mediation?
3. Are there other factors that influence barriers to meditation?

Chapter 4: Methodology

Research Design

The research design mirrors the research design of a previous study by Williams, Dixon, Van Ness, and McCorkle (2011). That study created and tested a tool for measuring perceived barriers to meditation, and studied if personality has an effect on barriers to meditation.

The participants for this study were drawn from Ohio State University to complete an online, one-time, self-reported survey through Qualtircs. The survey measure demographics, for extraneous variable, measures perceived barriers to meditation, and captures different personality types. The participants received a $5 Amazon gift certificate for approximately 20 minutes of their time. This information was limited by those who chose to be involved in the survey.

Participants

Participants were recruited from Ohio State. The population that was targeted was specifically students. There are 59,482 enrolled students who attend the main campus in Columbus, Ohio. Students will have to be eighteen years or older to complete the survey. The research will be done at Ohio State mainly due to how diverse Ohio State is. We believed that the findings have the potential to be generalized to the larger population of college students, or at least students that belong to large state universities.

Data Collection Methods

For this study, survey data was collected through Qualtrics. Distribution of the survey was assisted by the Office of Student Life and the Social Work Department. The

Office of Student Life sent out weekly emails for two months to all students at the Ohio State University. The Department of Social Work sent out a one-time email to students who are affiliated with the Department of Social Work. The email included a recruitment script which had a link to the survey. The survey had two parts. The first part of the survey contained the consent form and a space for participants to record their email addresses. This was so the participant could receive the incentive without having to complete the survey and identifying information would not be attached to the second part of the survey. In the event, 100% of participants completed the survey. To continue onto the second part of the survey, participants must have agreed to the consent, but they did not have to disclose their email addresses. Once the consent was completed and participants had entered their email addresses, the participants were automatically redirected to the second part of the survey. This part of the survey collected demographic information, the Determinants of Meditative Practice Inventory (DMPI) to collect self-reported barriers to meditation, and the Big Five Inventory (BFI) to collect personality type data. A total of 93 participants completed the survey. This data was then downloaded into Statistical Package for the Social Sciences (SPSS).

Instrumentation

Demographics. The first part of the survey contained demographic information. These nine questions were included to account for possible extraneous variables. The questions that asked and why they were asked are as follows: What gender do you identify as? This questions was asked, because it is assumed that differences in gender could account for barriers due to role assumptions. What is the highest degree or level of school you have

completed? It seemed possible that a difference in education level could account for a difference in exposure to meditative practices. The number of hours a week participants typically spend in school and extracurricular activities and the number of hours a week they work, on average could account for time restraints that impact ability to practice meditation. We asked whether particiapnts identify with a religion or other spiritual practice, because some may or may not practice due to religious expectation. We also asked if people practice meditation themselves, phrasing the questions as, "Meditation can be defined as bringing one's awareness to their inner and outer environment in order to be more intentional in their daily activities. This practice includes deep breathing and/or attempting to stay in the moment (Eisendrath, Chartier, and McLane 2010). Do you practice meditation?" This question was asked specifically in that way, so that everyone had a clear definition of meditation. It was reasonable to suppose that whether or not one practices meditation would impact barriers. We asked, "If you practice meditation, what type(s) do you practice?" This was asked because it seemed plausible that different types of meditation might encounter different barrier. We offered the participants an option of "other" in case their type of meditation did not fit conventional meditative practices, such as prayer. We asked, "If you practice meditation, on average how many hours a week do you practice is a fair question to ask, that grounds that those who practice more might have fewer barriers. The last question asked was, "Because of a physical, mental, or emotional condition lasting six months or more, do you have any difficulty in doing any of the following activities: learning, remembering, or

concentrating?" This was to account for conditions that could impair the practice of meditation.

Barriers to Meditation: There is only one formal tool that address barriers of meditation, the Determinants to Meditative Practice Inventory (DMPI) (Williams, Dixon, Van Ness, & McCorkle 2011). This is a 17-item scale. The questions will be presented as a statement that the participant will mark agreeableness or disagreeableness on a Likert scale. When it was being created, an expert panel determined the DMPI had a Cronbach's coefficient alpha of 0.87 (Williams, Dixon, Van Ness, & McCorkle 2011). Given the need for a tool to measure personality and the evidence that supports the validity of this tool, the DMPI was deemed appropriate for this study.

Personality. Personality type was measured using the Big Five Inventory (BFI) (Oliver 2009). The BFI is a 44-item scale. Though there are many ways to capture personality, the five dimensions of personality are what researchers find when individuals rate themselves or others on different variety scales (Malouff, Thorsteinsson, & Schhutte 2005). The five dimensions of personality are extraversion, agreeableness, conscientiousness, neuroticism, and openness. Researchers used this tool, because research shows that these specific personality traits can be used to adequately measure the five different facets of personality (Feldt, Lee, & Dew 2014). The questions were presented as a statement of description with a Likert scale were the participant can report how closely the question represents them. This instrument was deemed suitable for this research given the wide range of support it has and the extensive research that shows that validity of the instrument.

Data Analysis

Upon completion of the survey, data was downloaded into SPSS in order to apply a liner regression model aimed at analyzing predictors of perceived barriers to meditation. Using DMPI scores as the dependent variable, and BFI scores as well as selected demographic information (gender, time in school and extracurricular activities, time spent at work, if one meditates or not, etc.) were evaluated as predictors using multiple linear regression models. Gender was dummy coded (0=Male, 1=Female). The DMPI and BFI were coded to account for reversed variables (1=5, 2=4, 3=3, 4=2, 5=1). For the BDI, multiple answers were combined to create the prevalence of each five personality traits. For the purpose of this study, DMPI scores were not evaluated as independent variables.

Chapter 5: Results

Descriptive statistics can be found in Table 1.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BarriersToMeditation	87	16.00	64.00	39.1839	9.51196
Extraversion	85	10.00	40.00	25.6471	7.31715
Agreeableness	84	23.00	45.00	34.4048	5.19527
Conscientiousness	85	15.00	43.00	31.1412	6.00823
Neuroticism	85	13.00	39.00	26.6471	6.00735
Openness	84	18.00	47.00	37.3095	5.95156
If you practice meditation, what type(s) do you practice? Awareness Meditation (mindfulness)	60				
If you practice meditation, what type(s) do you practice? Concentration Meditation (zen)	9				
If you practice meditation, what type(s) do you practice? Physical Meditation (yoga or ti chi)	24				
If you practice meditation, what type(s) do you practice? Other(s)	12				

Descriptive statistics are as follows: The mean for barriers to meditation was 39.1839 while the standard deviation is 9.51196 with a minimum of 16.00, and a maximum of 64.00. For extraversion, the mean was 25.6471 with a standard deviation of 7.31715 and a minimum of 10.00 and a maximum of 40.00. Agreeableness had a mean of 34.4048, a standard deviation of 5.19527 with a 45.00 minimum and a 45.00 maximum. Conscientiousness had a mean of 31.1412, a standard deviation of 6.00823, a minimum of 15.00, and a maximum of 43.00. Neuroticism had a mean of 26.6471, a standard deviation of 6.00735, a minimum of 13.00, and a maximum of 39.00. Openness had a

mean of 37.3095, a standard deviation of 5.95156, a minimum of 18.00, and a maximum of 47.00. Alone among the personality traits, Openness was also negatively skewed and positively kurtotic. Eighty-four percent of respondents were female. When asked the highest degree or level of school completed, 70% reported some college, 15% reported an associate degree, 10% a bachelor's degree, and 5% reported a master's degree. Most participants reported between 11-20 (37%) and 21-30 (33%) average hours per week spent in school and extracurricular activities; these were the modal values. The modal value of hours per week worked was lower, with 43% of participants reported working 0-10 hours an average a week. When asked if they identified with a religion or other spiritual practice, participants were almost evenly split ; 44%, yes, 15% maybe, and 41% no. When asked if they practiced meditation, 69% of participants said yes, and 31% said no. Awareness meditation was the most commonly reported practice, with sixty participants reporting that they had done this technique, while nine reported having practiced concentration meditation, twenty-four reported having practiced physical meditation such as yoga or tai chi and 12 reported having practiced some other form of meditation. When asked how many hours per week they spent practicing meditation, 89% of participants reported 0-5 hours of practice per week. When asked if they had physical, mental, or emotional conditions lasting six months or more that impaired concentration, 49% said yes, and 51% said no.

The results of the linear regression model testing personality characteristics, gender, hours spent on school work and extracurricular activities, practice of meditation

and presence of a condition that interferes with learning, remembering or concentration can be found in Table 2.

Table 2: Linear Regression Statistics

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
9	(Constant)	29.050	12.314		2.359	.021
	Extraversion	.089	.129	.065	.688	.494
	Agreeableness	-.290	.197	-.153	-1.473	.145
	Conscientiousness	.054	.184	.031	.295	.769
	Neuroticism	.388	.192	.236	2.018	.048
	Openness	-.196	.160	-.118	-1.225	.225
	Do Meditation	8.180	1.992	.383	4.107	.000
	What gender do you identify as?	6.389	2.757	.249	2.317	.024
	How many hours a week do you typically spend in school and extracurricular activities?	2.465	.941	.270	2.621	.011
	Because of a physical, mental, or emotional condition lasting six months or more, do you have any difficulty in doing any of the following activities: learning, remembering, or concentrating?	-5.149	2.279	-.261	-2.259	.027

a. Dependent Variable: BarriersToMeditation

Among the Big Five Personality Traits, Extraversion was not statistically significant (B=0.089, SE=0.129, P=0.021), Agreeableness was not statistically significant (B=-0.290, SE=0.197, P=0.145). Conscientiousness was not statistically significant

(B=0.054, SE=0.184, P=0.769). Neuroticism was statistically significant (B=0.388, SE=0.192, P=0.048). Openness was not statistically significant (B=-0.196, SE=0.160, P=0.225). Whether respondents practiced meditation was statistically significant (B=8.180, SE=1.992, P=0.000). Gender was statistically significant (B=6.389, SE=2.757, P=0.024). Average hours of work spent in school and extracurricular activities was statistically significant (B=2.465, SE=0.941, P=0.011). A physical, mental, or emotional condition lasting more than six months or more that contributed to difficulty doing activities such as learning, remembering, and concentrating was also statistically significant (B=-5.149, SE, 2.279, P=0.027).

Figures 1-5 give a set of scatterplots that show the uncorrected relationships between predictor variable statistical significance at 0.05 P level and barriers to meditation:

Figure 1: Scatterplot Neuroticism and Barriers of Meditation

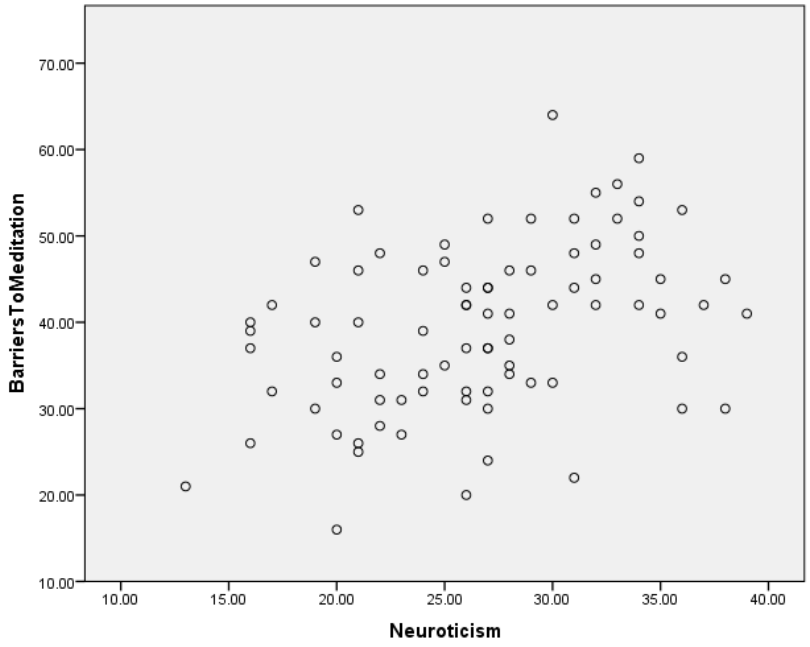
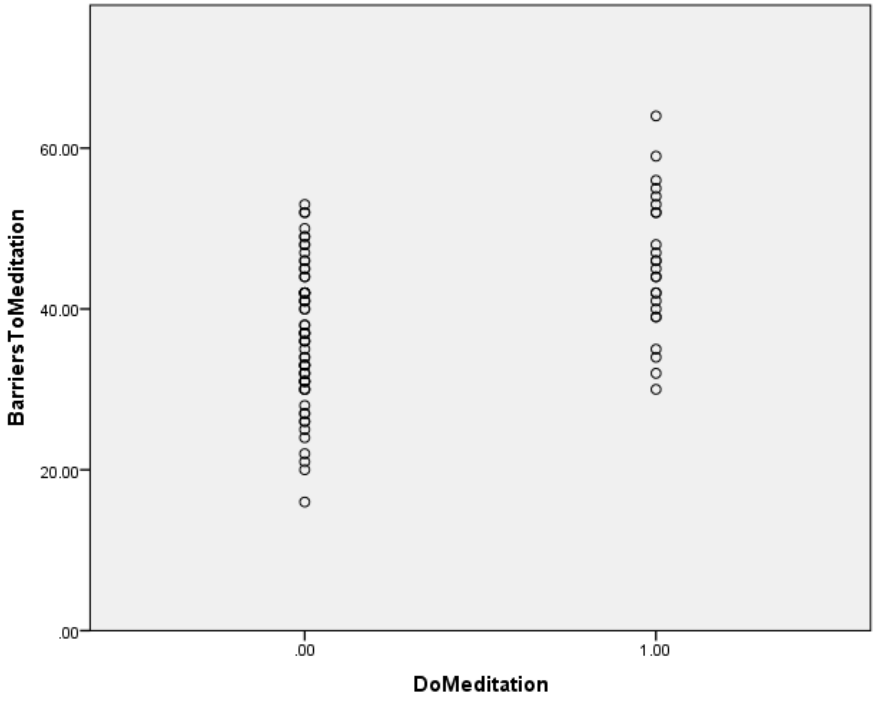
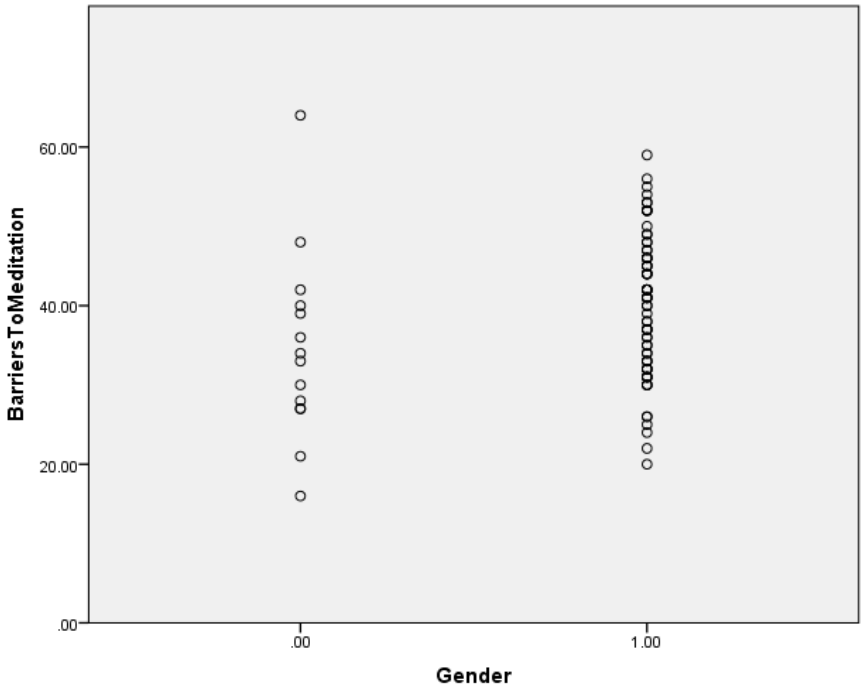


Figure 2: Scatterplot Do Meditation and Barriers to Meditation



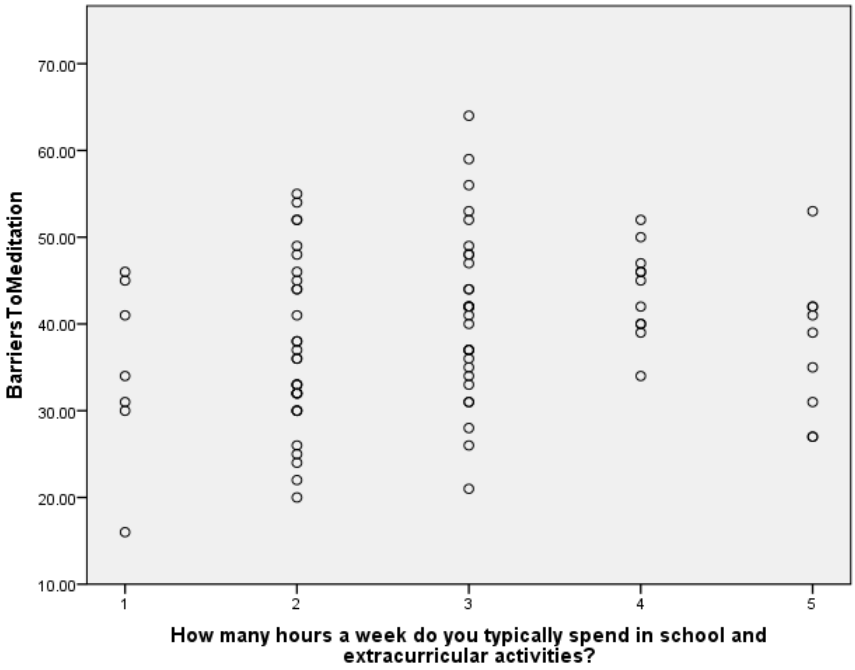
For coding, 0=Yes, 1=No

Figure 3: Scatterplot Gender and Barriers to Meditation



For coding, 0=Female, 1=Male

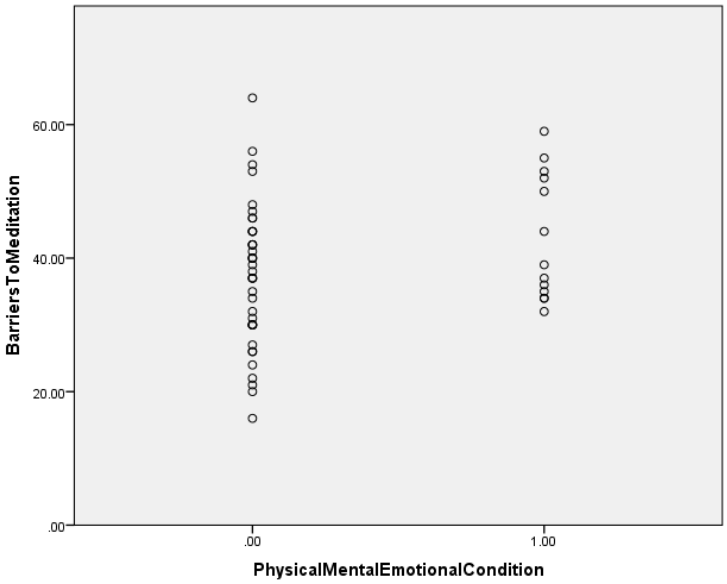
Figure 4: Scatterplot Hours in School and Extracurricular Activities and Barriers to



Meditation

For coding, 1=0-10 hours, 2=11-20 hours, 3=21-30 hours, 4=31-40 hours, 5=40 or more hours

Figure 5: Scatterplot of Physical, Emotional, Mental Conditions and Barriers to Meditation



For coding, 0=Yes, 1=N

Chapter 6: Discussion

Summary of Results

Neuroticism, whether one practices meditation, gender, average time spent at school and extracurricular activities, and participants having a physical, emotional, and mental conditions that has lasted six months or longer causing impairment in learning, remembering, or concentration were all statistically significant in determining perceived barriers to meditation. It was not surprising that those who do not meditate have more barriers, as well as those with physical, emotional, and mental conditions. The positive correlation between neuroticism and self-reported barriers to meditation has implications for meditative interventions aimed at relieving psychological distress. Overall, the affect that neuroticism, gender, time spent at school and extracurricular activities, and physical, emotional, and mental conditions demonstrations the need for further investigation.

Implications

Those that self-reporting a physical, emotional, and mental conditions that has lasted six months or longer causing impairment in learning, remembering, or concentration had a larger amount of barrier to meditation. Given the BMPI questionnaire, this was not unexpected. Questions such as, “I can’t stop my thoughts”… “I can’t sit still long enough to meditate”… “I prefer to be accomplishing something”… “It’s a waste of time to sit and do nothing”… “I don’t know if I was doing it right”… “I wonder if meditation might harm me” (Williams, Dixon, Ness, & McCorkle 2011) directly relate to the problems that this group of participants may exhibit. This research suggests that these condition which have an impact on concentration may unsurprisingly

increase the number of barriers to meditation that individuals perceive. This is a finding of clinical concern, since individuals with physical and mental conditions that affect concentration are likely to disproportionately present at the offices of doctors and therapists. Meditation has been developed as a treatment for both physical pain and mood disorders (Chiesa & Seretti, 2010), but individuals who are suffering from these issues may have more difficulty in meditating.

Neuroticism is correlated with mood and anxiety disorders due to internalizing psychopathology (Hettema, Neale, Myers, Prescott, Kendler 2006, Hettema, An, Neale, Bukszar, Van Den Oord, Kendler, & Chane 2006, Benjamin 2009, Griffith, Zinbarg, Craske, Mineka, Rose, Waters, & Sutton 2010, Ormel, Jeronimus, Kotov, Riese, Bos, Hanklin, Rosmalen, Oldehinkel 2013). More specifically, neuroticism is linked to the following: mood disorders, including major depressive disorder and dysthymia, anxiety disorders, including generalized anxiety disorder, social phobia, specific phobia, agoraphobia, panic disorder, obsessive-compulsive disorder, panic disorder, and substance use disorders, including alcohol and cannabis abuse or dependence (Hettema, Neale, Myers, Prescott, Kendler 2006, Hettema, An, Neale, Bukszar, Van Den Oord, Kendler, & Chane 2006, Benjamin 2009, Griffith, Zinbarg, Craske, Mineka, Rose, Waters, & Sutton 2010, Ormel, Jeronimus, Kotov, Riese, Bos, Hanklin, Rosmalen, Oldehinkel 2013), as well as somatoform disorders, schizophrenia, and eating disorders (Van Den Oord, Kendler, & Chane 2006, Benjamin 2009). And lastly, anxiety, depression, and psychological distress (Ormel, Jeronimus, Kotov, Riese, Bos, Hanklin, Rosmalen, Oldehinkel 2013). As long ago as 1983, it was noted that those participate in

meditative interventions show a decrease in neuroticism and mood disorders, but studies which have participants who score higher levels of neuroticism or markers of neuroticism tend to have lower retention rates (Fenwick, 1983).

Because there is a link between these clinical disorders and neuroticism, coupled with neuroticism being an established predictor of high barriers to meditative interventions, it is reasonable to examine the effectiveness of meditative interventions for the above mentioned clinical disorders. This study supports the hypothesis that those who score high in neuroticism have more barriers to meditation. Based on this, clinicians who work with meditation should be prepared to help their clients overcome barriers, and should be also have alternative treatments other than meditation available for affective disorders. Further research needs to be conducted to further the influence of neuroticism on meditative interventions.

Average time spent at school and extracurricular activities was found to be positively correlated with barriers to meditation. Interestingly, average hours a week spent at work did not have a statistically significant impact. There could be many reasons for these findings, especially given the population that is captured in this research. Our population was of students at a college campus. The majority of students captured in this study spent 0-10 hours a week at work compared to the 11-30 hours a week that most students spend on school and extracurricular activities each week.. Given a different population, work may have a larger effect than school and extracurricular activities. Students captured in this research spend more time in school and extracurricular activities, which in turns, could be understood as the students having less time, and

therefore, more barriers, than time spent at work. Since meditation is often suggested as an intervention for stress, this finding once again implies that those who need meditation the most may perceive more barriers to the practice.

Gender was found to have a statistically significant positive correlation with barriers to meditation. The interesting finding is that women reported higher barriers than men. Though there have been systematic reviews written on the relationship, or lack thereof, that gender can have on meditation, there are also limitations to this research (Katz & Toner 2013). In their systematic review, Katz & Toner (2013), found that there has not been a statistically significant effect noted that can be attributed to gender.

However, it is likely that previous studies could have failed to control for either Big Five Personality traits or current mental health status. It has been found that women report higher in extraversion, agreeableness, and neuroticism (Weinberg, DeYoung, & Hirsh 2011). Specifically, neuroticism and identifying as female both scoring high barriers could not be a coincidence for this study. Moreover, women tend to score higher in anxiety and mood disorder (Seedat, Scott, & Andermeyer 2009). As previously mentioned, mood and anxiety are indicators of neuroticism. This may explain the variability in findings. A more nuanced look at the relationship between gender, barriers to meditation and meditation retention is justified in light of the findings of this study.

Limitations

This study has obvious limitations. This research used a relatively small convenience sample of Ohio State students. It is possible that a sample that differed in education level, age or socio-economic status might have a different set of predictors of

barriers. In this research, 84% of participants were female, and 16% were male, again atypical of the population at large. In light of the finding that several variables that should predict the need for meditation are positively correlated with barriers to meditation further research on barriers to meditation and interventions to overcome them appears justified.

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APPENDIX A: RECRUITMENT SCRIPT

Would you like to be part of a study on barriers to meditation?

Do you meditate, including practicing yoga, tai chi, or deep breathing?

My name is Sammie Bork and I am doing a study on things that make it difficult to meditate. The study is an online survey that is anticipated to take no more than 20 minutes to complete. To participate in this study, you must be an Ohio State student. You must also be 18 years of age or older. Upon completion of the survey, you will receive a $5 Amazon gift card. If you have previously completed the survey you may do so again and you will receive another gift card. You may drop out of the study at any moment for any reason without any consequences. If you have any questions, please contact Keith Warren at warren.193@osu.edu.

If you are interested in taking the survey, here is a link to the consent form and the survey itself:

https://osu.az1.qualtrics.com/SE/?SID=SV_0O58CGu06vcCHQ1

Good luck with your practice!

APPENDIX B: CONSENT FROM

Study Title:

Barriers to Meditation

Researcher:

Samantha Bork

Sponsor:

Keith Warren

This is a consent form for research participation.

This research will be examining barriers to meditation. Participants can expect to take a survey that will ask them their demographic information, barriers that the participants identify, and the Big Five Inventory that will determine their personality types.

Your participation is voluntary.

Please consider the information carefully. Feel free to ask questions before making your decision whether or not to participate. If you decide to participate, you will be asked to check "yes" below.

Purpose:

The purpose of this study is to understand barriers to meditative practice among college students.

Procedures/Tasks:

Please take the survey at your own pace. After the survey has been completed, submit the survey.

Duration:

This survey is estimated to take no more than twenty minutes. You may leave the study at any time. If you decide to stop participating in the study, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your future relationship with The Ohio State University.

Risks and Benefits:

. The survey will ask some questions about your meditation practice, demographics and how you see yourself. There are no known risks associated with answering these questions. You may benefit by getting a chance to think about your own meditation practice

Confidentiality:

Efforts will be made to keep your study-related information confidential. However, your information will be transmitted and stored online, and in rare cases data transmitted online can be intercepted and IP addresses can be identified. Also, there may be circumstances where this information must be released. For example, personal

information regarding your participation in this study may be disclosed if required by state law. Also, your records may be reviewed by the following groups (as applicable to the research):

· Office for Human Research Protections or other federal, state, or international regulatory agencies;

· The Ohio State University Institutional Review Board or Office of Responsible Research Practices;

· The sponsor, if any, or agency (including the Food and Drug Administration for FDA-regulated research) supporting the study.

Incentives:

You will receive a $5 Amazon gift card for taking this survey. Gift cards will be distributed once a week. You will receive it even if you fail to complete the survey.

Participant Rights:

You may refuse to participate in this study without penalty or loss of benefits to which you are otherwise entitled. If you are a student or employee at Ohio State, your decision will not affect your grades or employment status

If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits. By choosing to take the survey, you do not give up any personal legal rights you may have as a participant in this study.

An Institutional Review Board responsible for human subjects research at The Ohio State

University reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

Contacts and Questions:

For questions, concerns, or complaints about the study, or you feel you have been harmed as a result of study participation, you may contact Keith Warren at warren.193@osu.edu. For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

Consenting to participate in this survey will equate your signature stating that you have read and understood the consent form.

- ❍ Yes, I consent to participate.
- ❍ No, I do not consent to participate.

APPENDIX C: EMAIL INCENTIVE INFORMATION

Please type in your email address so the incentive will be emailed to you. Please keep in mind that this information will be only seen by the researcher and the sponsor. Once you have entered this information, you will automatically be redirected to take the Barriers to Meditation survey.

APPENDIX D: SURVEY

What gender do you identify as?

- ❍ Male
- ❍ Female
- ❍ Other

What is the highest degree or level of school you have completed?

- ❍ Some college
- ❍ Associates degree
- ❍ Bachelor's degree
- ❍ Master's degree
- ❍ Doctoral degree

How many hours a week do you typically spend in school and extracurricular activities?

- ❍ 0-10 hours
- ❍ 11-20 hours
- ❍ 21-30 hours
- ❍ 31-40 hours
- ❍ 40 or more hours

How many hours a week do you work, on average?

- ❍ 0-10 hours
- ❍ 11-20 hours
- ❍ 21-30 hours
- ❍ 31-40 hours
- ❍ 40 or more hours

Do you identify with a religion or other spiritual practice?

- ❍ Yes
- ❍ Maybe
- ❍ No

Meditation can be defined as bringing one's awareness to their inner and outer environment in order to be more intentional in their daily activities. This practice includes deep breathing and/or attempting to stay in the moment (Eisendrath, Chartier, and McLane 2010). Do you practice meditation?

- ❍ Yes
- ❍ No

If you practice meditation, what type(s) do you practice?

- ❑ Awareness Meditation (mindfulness)
- ❑ Concentration Meditation (zen)
- ❑ Physical Meditation (yoga or ti chi)
- ❑ Other(s)

If you practice meditation, on average how many hours a week do you practice?

- ❍ 0-5 hours
- ❍ 6-10 hours
- ❍ 11-15 hours
- ❍ 16-20 hours
- ❍ 20 or more hours

Because of a physical, mental, or emotional condition lasting six months or more, do you have any difficulty in doing any of the following activities: learning, remembering, or concentrating?

- ❍ Yes
- ❍ No

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I can't stop my thoughts.	❍	❍	❍	❍	❍
I am uncomfortable with silence.	❍	❍	❍	❍	❍
I can't sit still long enough to meditate.	❍	❍	❍	❍	❍
I prefer to be accomplishing something.	❍	❍	❍	❍	❍
Meditation might be boring.	❍	❍	❍	❍	❍
It's a waste of time to sit and do nothing.	❍	❍	❍	❍	❍
I don't know much about meditation.	❍	❍	❍	❍	❍
Prayer is my form of meditation.	❍	❍	❍	❍	❍
There is no quiet place to meditate.	❍	❍	❍	❍	❍
I don't have time.	❍	❍	❍	❍	❍

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
There is never a time when I can be alone.	❍	❍	❍	❍	❍
I wouldn't know if I was doing it right.	❍	❍	❍	❍	❍
I'm concerned meditation will conflict with my religion.	❍	❍	❍	❍	❍
My family would think it is unusual.	❍	❍	❍	❍	❍
I would feel odd meditating.	❍	❍	❍	❍	❍
I don't believe meditating can help me.	❍	❍	❍	❍	❍
I wonder if meditation might harm me.	❍	❍	❍	❍	❍

I see myself as someone who:

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
is talkative	❍	❍	❍	❍	❍
tends to find faults with others	❍	❍	❍	❍	❍
does a thorough job	❍	❍	❍	❍	❍
is depressed, blue	❍	❍	❍	❍	❍
is original, comes up with new ideas	❍	❍	❍	❍	❍
is reserved	❍	❍	❍	❍	❍
is helpful and unselfish with others	❍	❍	❍	❍	❍
can be somewhat careless	❍	❍	❍	❍	❍
is relaxed, handles stress well	❍	❍	❍	❍	❍
is curious about many different things	❍	❍	❍	❍	❍

I see myself as someone who:

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
is full of energy	❍	❍	❍	❍	❍
starts quarrels with others	❍	❍	❍	❍	❍
is a reliable worker	❍	❍	❍	❍	❍
can be tense	❍	❍	❍	❍	❍
is ingenious, a deep thinker	❍	❍	❍	❍	❍
generates a lot of enthusiasm	❍	❍	❍	❍	❍
has a forgiving nature	❍	❍	❍	❍	❍
tends to be disorganized	❍	❍	❍	❍	❍
worries a lot	❍	❍	❍	❍	❍
has an active imagination	❍	❍	❍	❍	❍

I see myself as someone who:

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
tends to be quiet	❍	❍	❍	❍	❍
is generally trusting	❍	❍	❍	❍	❍
tends to be lazy	❍	❍	❍	❍	❍
is emotionally stable, not easy to upset	❍	❍	❍	❍	❍
is inventive	❍	❍	❍	❍	❍
has an assertive personality	❍	❍	❍	❍	❍
can be cold and aloof	❍	❍	❍	❍	❍
perseveres until the task is finished	❍	❍	❍	❍	❍
can be moody	❍	❍	❍	❍	❍
Values artistic, aesthetic experiences	❍	❍	❍	❍	❍

I see myself as someone who:

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
is someone shy, inhibited	❍	❍	❍	❍	❍
is considerate and kind to almost everyone	❍	❍	❍	❍	❍
does things effiecntly	❍	❍	❍	❍	❍
remains calm in tense situations	❍	❍	❍	❍	❍
prefers work that is routine	❍	❍	❍	❍	❍
is outgoing, sociable	❍	❍	❍	❍	❍
is sometimes rude to others	❍	❍	❍	❍	❍
makes plans and follows through with them	❍	❍	❍	❍	❍
gets nervous easily	❍	❍	❍	❍	❍
likes to reflect, plays with ideas	❍	❍	❍	❍	❍

I see myself as someone who:

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
has few artistic ideas	❍	❍	❍	❍	❍
likes to cooperate with others	❍	❍	❍	❍	❍
is easily distracted	❍	❍	❍	❍	❍
is sophisticated in art, music, or literature	❍	❍	❍	❍	❍